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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/273,468	03/22/1999	VLADIMIR VOLOKH	P-68422-US	7168

27130 7590 07/21/2005

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NEW YORK, NY 10020

EXAMINER
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TSAI, HENRY

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

09/273,468

Applicant(s)

VOLOKH, VLADIMIR

Examiner

Henry W.H. Tsai

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 1999 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

**DETAILED ACTION**

***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "off-radial release angle" (in claims 23 and 24) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the

Application/Control Number:  
09/273,468  
Art Unit: 2183

Page 3

filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 23 and 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 23, line 2, the term "off-radial release angle" was not defined in the specification. Similar problems exist in claim 24.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 23 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 23, line 2, "off-radial release angle" lacks proper antecedent basis since it was not defined previously. Similar problems exist in claim 24.

Applicant is required to review the claims and correct all language which does not comply with 35 U.S.C. § 112, second paragraph.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 11-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Maier (U.S. Patent No. 5,160,232) hereafter referred to as Maier'232.

Referring to claim 11, Maier'232 discloses as claimed a rotary multi-tooth milling cutter (see Fig. 9) with at least one tooth (1 or 2, see Fig. 9) including a lateral cutting edge (6 or 7, see Fig. 1 or at the end of cutting edge 5, see Fig. 9) which rotates about a central cutter axis and cuts generally parallel thereto, the tooth further including a tooth face (comprising such as 5 and 271, see Fig. 9) between the cutting edge and the central cutter axis, the tooth face comprising: at least first (the first convex section 37, see Fig. 9) and second (the first concave section connecting to the first convex section 37, see Fig. 9) sections between the cutting edge and the central cutter axis, said first section (the first convex section 37, see Fig. 9) being nearest to the cutting edge and being convex wherein said lateral cutting edge comprises a pointed cutting edge (see Col. 6, lines 58-60) oriented to cut along a circular path centered at said central cutting axis.

As to claims 12 and 17, Maier'232 also discloses: the length of the first section (the first convex section 37, see Fig. 9) on the tooth face is 20% or less than the length of the tooth face between the cutting edge and central cutter axis.

As to claims 13 and 18, Maier'232 also discloses: the first section (the first convex section 37, see Fig. 9) blends tangentially into the second section (the concave section connecting to the first convex section 37, see Fig. 9).

As to claims 14 and 19, Maier'232 also discloses: the milling cutter as claimed in claim 11, further including a concave chip-breaking section (the first concave sub-section connecting to the first convex section 37, see Fig. 9) located between the first (the first convex section 37, see Fig. 9) and second (note this is the section comprising the second convex section and the second concave section, see Fig. 9) sections of the tooth face.

As to claims 15 and 20, Maier'232 also discloses: the first section (the first convex section 37, see Fig. 9) is smaller in length than the second section (note this is the section comprising the second convex section and the second concave section, see Fig. 9).

Referring to claim 16, Maier'232 discloses as claimed a rotary multi-tooth milling cutter (see Fig. 9) with at least one tooth (1 or 2, see Fig. 9) including a lateral cutting edge (6 or 7, see Fig. 1) which rotates about a central cutter axis, the lateral cutting edge extending along the length of the central cutter axis and cuts generally parallel to the central axis, the tooth face comprising: at least first (the first convex section 37, see Fig. 9) and second sections (the first concave section connecting to the first convex section 37, see Fig. 9) between the cutting edge and central cutter axis, said first section (the first convex section 37, see Fig. 9) being nearest to the cutting edge and being convex wherein said lateral cutting edge (6 or 7, see Fig. 1) comprises a pointed cutting edge (see Col. 6, lines 58-60) oriented to cut along a circular path centered at said central cutting axis.

As to claims 21 and 22, Maier'232 also discloses: said second section (the first concave section connecting to the first convex section 37, see Fig. 9) is concave.

As to claim 23 and 24, Maier'232 also discloses, as best understood, said cutting edge (37 or at the end of cutting edge 5, see Fig. 9) is oriented to have an off-radial release angle (see Fig.9).



### **Response to Arguments**

8. Applicant's arguments mailed 5/9/05 have been considered but are moot in view of the new ground(s) of rejection.

### **Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Markussen'488 and Minicozzi'568 also disclose the first section having a convex shape and the second section having a concave shape along the tooth face.

### **Contact Information**

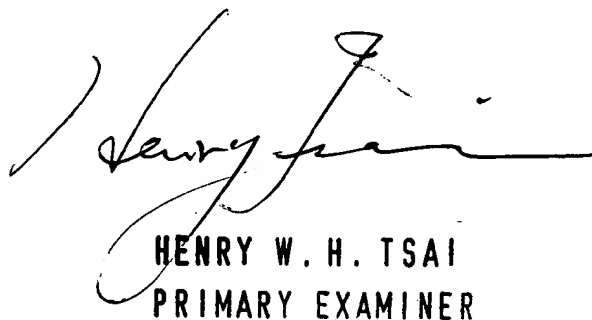
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Henry Tsai whose telephone number is (571) 272-4176. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Eddie Chan, can be reached on (571) 272-4162. Any inquiry of a general nature or relating to the

Application/Control Number:  
09/273,468  
Art Unit: 2183

Page 9

status of this application or proceeding should be directed to  
the TC central telephone number, 571-272-2100.

11. In order to reduce pendency and avoid potential delays,  
Group 2100 is encouraging FAXing of responses to Office actions  
directly into the Group at fax number: 571-273-8300. This  
practice may be used for filing papers not requiring a fee. It  
may also be used for filing papers which require a fee by  
applicants who authorize charges to a PTO deposit account.  
Please identify the examiner and art unit at the top of your  
cover sheet. Papers submitted via FAX into Group 2100 will be  
promptly forward to the examiner.



HENRY W. H. TSAI  
PRIMARY EXAMINER

July 18, 2005